

REMARKS

The Applicant appreciates the detailed comments made in the Office Action mailed August 6, 2009.

The drawings and specification have been amended, without adding new matter, correcting formalities to overcome the objections in the Office Action. Appropriate correction has been made by the Applicant. Amendments have been made to claims 1, 2, 5, 8, 12, 24 and 25. No new matter has been added. Support can be found throughout the specification.

§112

The Applicant traverses the §112 rejection commencing on page 5 of the Office Action, because Applicant's entire specification is drawn to a system and variation of a system including examples of burn-through-proof attachment elements. The Office Action suggests that the materials recited in the Application are not "fireproof" materials, but Applicant finds no support for this position in the Office Action. The Applicant's specification points out in paragraphs [0047] to [0048] an example of the installation of a burn-through-proof (i.e. fireproof) attachment element:

...implemented with a cylindrical core element 25 and a cylinder-like plastic-like casing 28, wherein the core element 25 near the end of the pin 27 in each case comprises a flange-like elevation 26. The core element 25, whose shape is shown in the longitudinal section view according to Fig. 5a, is embedded in that plastic-like casing 28. Approximately in the middle of the casing 28, a (type of ring-) flange 29 exits, from which, starting at the cylindrical circumference of the casing 28 and parallel to a pin axis 43 of the first attachment element 4 (of the insulation pin) distributed along its length – several pine-tree-shaped elevations 30 are positioned, which are arranged so as to be spaced apart from each other at a distance a. The pine-tree-shaped elevations 30 are comparable to a type of a stepped gradation 44 that is conical, wherein the gradation 44 starts at

the circumference of the casing 28, wherein its tapering off conical form is realized by a conical tapering off of the circumference of the casing. The end region of the casing 28 is dome-shaped, in the form of a recess. The external shape of said end region is similar to that of a paraboloid, comparable to the shape of a parabolic rotation body whose longitudinal section has been realized with a parabolic shape, wherein the branch end of the parabola is continued by a stepped gradation 44 drawn inward vertically in relation to the pin axis 43. The core element 25 is made from metal, namely a steel, preferably stainless steel. In contrast to this, the casing is made from a plastic of poor thermal conductivity.

(Excerpt from paragraph [0048]).

The material of poor thermal conductivity prevents heat from rapidly conducting through the metal core, which would otherwise propagate fire to the opposite ends of a metal pin. The metal core material prevents melting or combustion that would result if the pin was made of a polymer only. The Background of the Applicant's specification discloses that known plastic pins melt (or soften) causing premature failure of insulation and allowing burning insulation to fall from the structure blocking access or egress from the aircraft cabin. It is the combination of materials that make the examples of fireproof attachment elements fireproof. The claims do not claim fireproof materials, alone, but a fireproof attachment element. Since examples are disclosed of burn-through-proof attachment elements, the limitations of the claims are fully supported by the Applicant's specification. Thus, the Applicant's specification is enabling, and the Applicant is at a loss to find any evidence in the Office Action supporting the §112, first paragraph, rejection of claims 1-6, 8-12, 14, 15 and 21-30 and claims 29 and 30 (for enablement or separately for not reasonably conveying that applicant was in possession of the claimed invention), which include limitations filed originally with the application without a rejection under §112, first paragraph.

Specifically, it is not the materials from which an attachment element is made that are required to be fireproof, but the attachment elements as a whole that proves to be burn-through-proof. And it is the combination of materials, as taught in the Applicant's specification, that

make the elements burn-through-proof. While an element made of a single material would not be burn-through-proof, the examples of burn-through-proof elements in the Applicant's specification are disclosed to be burn-through-proof. Thus, the Applicant's specification both enables a person having ordinary skill in the art to make and use the claimed invention and puts a person having ordinary skill on notice that the Applicant possessed the invention at the time that the Application was filed.

The §112, second paragraph, rejections, commencing on page 7, are overcome by amendments to the claims. Also, the Applicant should be given deference for the Applicant's choice of language.

A "branch end" of a parabola is to be understood as referring to extending sides of the parabola from the vertex of the parabola literally appearing as a branch in cross section. The term is a technical translation literally interpreting the German technical term "Parabelast" (parabola branch). A person having ordinary skill in the art will understand the meaning of the expression to refer to the extending surface of a parabolic shaped article.

With regard to the objection regarding claim 12, the insulation braces are spaced apart on the circumference of both the first insulation ring and the second insulation ring, in particular between the larger circumference of the first insulation ring and the smaller circumference of the second insulation ring. See Fig. 6a, for example.

The Applicant respectfully requests that the Examiner reconsider the claims as amended and requests withdrawal of all of the §112 rejections. The specification, drawings and prosecution history, as well as the claims, themselves, properly inform a person having ordinary skill in the art of the metes and bounds of the claimed invention.

§102

The Smith reference, itself, and the knowledge of a person having ordinary skill in the art fail to support the assumption of inherency made in the Office Action.

On page 10 of the Office Action, at the bottom of the page, an element 26 of a cited reference is considered to "inherently have some minimal level of fire resistance" as that term would be understood by a person having ordinary skill in the art. The Applicant traverses this interpretation of "inherency" as improper under the facts and the law.

In order for a claim to be anticipated, all of the elements of the claim must be found as arranged in the claim in a single reference. The element may be found either as expressly disclosed or as inherently present within the disclosure of the single reference. Verdegaal Bros. v. Union Oil Co. of California, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

In order to assert that an element is inherently present, the Examiner has the burden of showing that the element must be necessarily present within the single reference cited as anticipatory prior art. See *In Re Spada*, 911 F.2d 705,709, 15 USPQ2d 1655 (Fed. Cir. 1990); and Atlas Power Co. v. IRECO, Inc., 190 F.3d 1342, 1349, 51 USPQ 1943, 1948 (Fed. Cir. 1990) (requiring evidence establishing an inherent property, function or ingredient).

To establish inherent anticipation of a claim element, the extrinsic evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the alleged anticipatory reference, and the Examiner must provide a basis in fact or technical reasoning reasonably supporting a determination of inherency within the single cited reference. For example, if the claimed product is identical in structure and composition or is produced by an identical process, a *prima facie* case of anticipation is established. See Titanium Metals Corp. v. Banner, 778 F.2d 775, 227 USPQ 773. None of these are true of the cited references, which discloses the use of “conventional” plastic attachment posts.

The Office Action failed to point out any reason or facts supporting the assumption that the attachment post 26 of the Smith reference (U.S. Pat. No. 6,358,591) meets any level of fire resistance within the applicable art. These conventional posts, which are made of plastic, are not burn-through-proof, and no person having ordinary skill in the art would consider them burn-through-proof. Indeed, they do not even meet the standard of fire resistance within the Smith reference, itself. Thus, the Office Action fails to establish *prima facie* anticipation of the claims.

The attachment post 26 of Fig. 4 of the Smith reference is described as being a “conventional” plastic on page 9 of the Smith reference, which is used in combination with “conventional” plastic washers. The only reason that these plastic posts 26 remain attached is because the arrangement of the posts and blanket “tends to protect the attachment post from the heat of the fire,” as disclosed in the Smith reference at col. 9, lines 17-20. If this arrangement is disturbed, the Smith reference admits that the attachment post is neither fire resistant (by its

1999 standard) nor fireproof. Thus, the Smith reference, itself, rebuts the assumption of inherency, recognizing that the conventional plastic attachment post 26 of the Smith reference has no inherent fire or flame resistance, according to the standard found in Smith (from 1999).

The Smith reference, itself, defines a fire resistance standard as requiring fire blocking insulation to remain in place for “at least two minutes, and preferably for more than five minutes, when subjected to a fuel fire,” in col. 2, line 66 to col. 3, line 2. Column 4, lines 23-67 disclose an FAA report of 1999 establishing a test and standard for burn through resistance improvements for a post crash fuel fire, and disclose the reasons that the Smith reference teaches away from altering the geometry of the attachment of the insulation blankets. Therefore, not only does the Smith reference fail to anticipate the present claims, but also the cited reference fails to establish *prima facie* obviousness over any of the claims and teaches away from any combination with other references that suggest any alternative geometry of the insulation blankets. Furthermore, the teachings of the Smith reference offer no incentive to improve the attachment system, because the insulation fails prior to the attachment posts 26, due to catastrophic burn through and only then do the plastic pins fail, due to the direct exposure to fire, according to Smith.

The proper standard for claim interpretation is to consider the meaning of the claims as understood by a person having ordinary skill in the art at the time that the invention was made. Therefore, the proper standard to apply for burn-through-proof is the FAA standard for burn-through-proof (i.e., fireproof) as of the date that the application was filed. This standard has been provided to the Examiner and the Patent Office. The Applicant suggests that the proper interpretation of burn-through-proof as understood by a person having ordinary skill in the art must be considered by the Patent Office.

Arguendo, even if combined with any other cited references, the cited references fail to teach or suggest all of the limitations of claims including a burn-through-proof attachment element as recited in the claims.

A burn-through proof attachment element as arranged in the claims is not disclosed in Lea, either. The pin in Lea is not burn-through proof, because heat from a fire rapidly heats the material of the pin transferring heat through the pin to the opposite side of the pin, causing ignition by conductive and radiative heat transfer via the pin. Also, the pin of Lea is not

arranged as recited in the pending claims, as amended. Thus, Lea fails to anticipate the claims, because Lea fails to disclose all of the elements arranged as in the claims.

Furthermore, Lea, whether taken alone or in combination with other cited references, fails to teach or suggest the limitations of the claims. Instead, Lea is drawn to a particular accordion arrangement of insulation that requires the firm attachment shown in the drawings to properly serve as fireproof insulation when the skin of an aircraft cracks open. The insulation of Lea would come unattached if attached as shown in the Smith reference, causing the accordion insulation to be displaced by sagging and to block ingress and egress from the cabin; therefore, changing the attachment arrangement of Lea would frustrate the principle that requires the insulation to be firmly held between the rib and a special holder. Indeed, the Lea reference teaches that the fastener 30 and spacer 32 extends through not only the insulation but also the panel serving as the interior surface of the cabin.

Furthermore, the pin 30, 32 material would transfer heat too rapidly through the pin providing a path for penetration of heat into the cabin, because the material is metal, a material of high thermal conductivity. Regardless, the Lea reference discloses only a metal to form the spacer 32 portion and the fastener 30 portion of the pin.

In addition, the fastener 30 portion of the pin is not a first retainer or a second retainer "comprised of a disk of a first burn-through-proof material having a central hole...and a shaped flange...of a second material, different than the first material," as recited in claim 29, for example. Instead, the fastener of Lea does not have a hole. Thus, the fastener cannot be considered as inherently the same as a retainer with a hole. Thus, the pin of the Lea fails to disclose, teach or suggest any first retainer or second retainer, as arranged in the claims and fails to disclose, teach or suggest a first retainer end or a second retainer end, as recited in claim 1 which is capable of being fitted through the hole in the retainer, retaining the retainer as recited in dependent claims. Thus, the claims including such retainers and retainer ends, as such terms are to be understood by a person having ordinary skill within the context of the claims, themselves, and the specification, are neither anticipated by nor obvious over the Lea reference, whether taken alone or in combination with any of the other cited references.

Furthermore, the pin geometry of the pin of the Lea reference exposes one end of the pin to flames, which makes the pin a conduit for transfer of heat from the flames into the

interior of the cabin resulting in combustion on the interior side of the pin and a dangerously hot fastener 30. And the Lea reference teaches away from conventional attachment to "the rib attachment region," as that term should be interpreted in light of the specification, teaching instead the importance of securely fastening to the frames. The insulation material "...must be secured between the frames 20" to perform its function of extending as an accordion when the aircraft skin is beached.

§103

The Office Action combines Smith and Long (U.S. Pat. No. 4,805,366), but this combination fails to teach or suggest all of the limitations of claim 4-6, 10,12 and 24-28. Long is introduced to teach casings around core elements, which are omitted from Smith.

Claim 4 includes all of the limitations of claim 2 and 3, plus additional limitations including:

"...the insulation pin has an elongated cylindrical core element and a flange-like elevation formed at each end of the core element, and a casing formed around the core element."

Long teaches a snap lock retainer mechanism for insulated wall construction apparatuses for buildings to retain insulated layers in place while concrete is poured and hardened. The Office Action asserts that this is analogous art, but no person having ordinary skill in the art of the Applicant's invention, i.e., aviation, would consider Long to be analogous art, because it is specifically tailored to poured concrete construction.

Arguendo, even if considered analogous, which it is not, snap lock retainer mechanisms formed of a plastic rod 15 upon which plastic snaprings 36, 38 are mounted to hold the insulated material 13 in place while concrete is poured and hardened are not burn-through-proof. (See Abstract of Long and col. 2, lines 1-10). Nor is there any motivation to combine these specialized spacers with the conventional plastic pins of the Smith reference. Thus, a person having ordinary skill in the art would not combine a spacer including a plastic rod 15

and receiver 18 of Long to replace the plastic pin of Smith, because no spacer is needed in Smith (Col. 1, lines 10-15 of Long). While reducing energy transfer, the plastic rod 15 and receiver 18 of Long does not teach or suggest a "burn-through-proof attachment element" or a "burn-through proof" pin. Therefore, all of the pending claims are non-obvious over Smith taken alone in combination with Long or any of the other cited references, because nothing in any of the references teaches a burn-through-proof fastener element having the structure and as arranged in the pending claims.

The Office Action combines Lea and West, but this combination also fails to teach or suggest all of the limitations of any of the pending claims, taken alone or in combination with any other cited references. Indeed, Lea teaches that fasteners 30 and spacer 32 secure the panel 35 and the fire-stop insulation material 10 simultaneously against the frames 20. However, Lea omits the "burn-through-proof" attachment element (and pin) as previously discussed, and fails to teach or suggest the arrangement recited in the claims. Indeed, Lea teaches a different arrangement necessary to the purpose of Lea's invention. West is introduced to teach or suggest limitations of the claims omitted from Lea, but West fails to teach a burn-through-proof attachment element with the structure and as arranged in the pending claims. Instead, West teaches a flush-mounted fastening system which securely fastens canvas while minimizing interference with the intended appearance of the surface, preferably fastening canvas to a boat hull. (Col. 1, lines 34-36 and lines 63-64). *Arguendo*, even if one of ordinary skill in the art would combine the fastening system of West with the insulation material of Lea, which is not reasonably supported in the Office Action, the fastening system would be exposed and certainly not be at all fire resistant. Therefore the pending claims are non-obvious over Lea taken alone or in combination with West. Claims 4-6, 8-10, 14, 15 and 21-28 incorporate all of the limitations of claims 1 or 2, plus additionally limitations. Therefore, claims 1-2, 4-6, 8-10, 14, 15 and 21-28 are non-obvious over Lea taken alone or in combination with West or any of the other cited references.

Specifically, none of the means for fastening in Smith, Long, Lea, West or Munk teach or suggest the "burn-through-proof" attachment element of the claimed invention.

The pin of West would readily conduct heat to the plastic components, which could immediately melt, soften and combust. Thus, West's attachment system is not at all fire resistant (much less burn-through-proof), whether taken alone or in combination with any of the other references, which are also not teaching burn-through-proof attachment elements.

Munk is merely introduced to teach nut and bolt pairs; however, Munk fails to teach or suggest any element or the arrangement of any element omitted from the other cited references.

Response to Examiner's Comments on Page 25 of Office Action

The Applicant asserts that the interpretation of burn-through-proof in the Office Action is an overly technical characterization of the specification with the goal of completely vitiating the meaning of burn-through-proof in the claims, as originally filed. The proper standard is to determine, from the context of the specification as a whole, file history and the extrinsic evidence, what a person having ordinary skill in the art would understand the meaning of burn-through-proof to mean in the context of the claims. The Applicant has provided the relevant FAA standard that requires a specific standard for the use of fireproof (i.e. burn-through-proof). The specification supports this interpretation throughout the specification including the Background, Summary figures and Detailed Description of the examples provided by the Applicant. This standard is the most persuasive document that the Applicant can provide, because it is completely objective and is directly relevant to the knowledge of a person having ordinary skill in the art. The Office Action chooses to ignore this well known standard in the particular art in order to render the term burn-through-proof, a translation of a German language term having the same meaning as fireproof in the art, meaningless. The standard of fireproof is a particular level of fire resistance in that it is determined by an FAA test requiring an element to withstand a particular temperature of fire for a particular length of time. Thus, fireproof does not mean that an element is unaffected by fire during the test. A person having ordinary skill in this particular art is well aware of the definition of burn-through-proof as it is used in the specification and the claims. In contrast, the Office Action asserts that "conventional" plastic fasteners, which are known to not be fireproof, have some inherent fire resistance and read on the limitation of burn-through-proof, even though the reference cited by the Office, itself, suggests otherwise. This is improper.

The Applicant respectfully requests that the Patent Office adopt a meaning of burn-through-proof that is supported by the specification and consistent with the extrinsic evidence submitted to the patent office, which would require the cited references to teach or suggest an element meeting the standard of burn-through-proof known in the art at the time the application was filed. Even the relevant references, such as the Smith reference, cited by the Patent Office recognize the relevant FAA standards (at the time) within the specifications of these cited references. Yet, the Office Action, while citing to these references, persists in mischaracterizing the specification and the FAA standard that clearly shows what a person having ordinary skill in the art would understand the terms to mean at the time the application was filed. Instead of advancing prosecution on the merits, this refusal to accept well known standards frustrates the purpose of patent prosecution, which is to establish the meets and bounds of the Applicant's claims.

Applicant traverses the remaining detailed comments in the Office Action with respect to the terms "opposite", "flange-like" and "elevation" because these definitions crafted in the Office Action are not based on what a person having ordinary skill in the art would understand within the context of the claims and the specification. Instead, refer to the Applicant's previous response, the specification and, especially, the drawings. For example, the rib attachment region is readily identifiable as a portion of a rib and cannot extend "beyond the rib itself," as suggested in the Office Action.

Instead the rib attachment region 15 is identified in Figs. 3 and 4, for example.

No new subject matter is entered by any of the amendments. The amendments put all of the claims in condition for allowance. Entry of all the amendments and reconsideration of the allowability of all of the claims is respectfully requested.

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Respectfully submitted,



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